



**NEW MEXICO ENVIRONMENT DEPARTMENT GROUND
WATER QUALITY BUREAU
UNDERGROUND INJECTION CONTROL
GENERAL DISCHARGE PERMIT**



Certified Mail- Return Receipt Requested

Facility Name: 8635 Rio Grande Blvd NW Property

Facility Location: 8635 Rio Grande Blvd NW, Albuquerque, NM
Section, Township, Range
Bernalillo

Legally Responsible Party: Margaret Branch & The Estate of Turner W. Branch
2025 Rio Grande Blvd NW, Albuquerque, NM
(505) 615-7424

Remediation Oversight Agency Contact: New Mexico Ground Water Quality Bureau
Paul Chamberlain
(505) 670-2571

Remediation or Injection Plan Identification: Rio Grand Blvd

Permitting Action: New DP-1941

PPS Contact Andrew Romero
505-660-8624/andrewc.romero@state.nm.us

EFFECTIVE DATE: **TERM ENDS:**

Justin Ball
Chief, Ground Water Quality Bureau

[Subsection H of 20.6.2.3109 NMAC, NMSA 1978, § 74-6-5.1]

I. UIC GENERAL DISCHARGE PERMIT

The New Mexico Environment Department (NMED) Ground Water Quality Bureau (GWQB) issues this Underground Injection Control General Discharge Permit (UIC Permit) for the subsurface emplacement of additive fluids through a Class V UIC injection well for the purpose of facilitating vadose zone or groundwater remediation. The GWQB issues this UIC Permit to Margaret Branch & The Estate of Turner W. Branch (Permittee) pursuant to the New Mexico Water Quality Act (WQA), NMSA 1978 §§74-6-1 through 74-6-17, and the New Mexico Water Quality Control Commission (WQCC) Ground and Surface Water Protection Regulations, 20.6.2 NMAC.

In issuing this UIC Permit, the GWQB has determined that the requirements of Subsection C of 20.6.2.3109 NMAC have been met. The activities authorized by this UIC Permit are principally governed by Rio Grande Blvd Injection Plan (Injection Plan), under the authority of NM State Clean up Program, with oversight by the Remedial Oversight Section. Compliance with this UIC Permit requires compliance with the terms, requirements, and conditions of the Injection Plan. The term of this UIC Permit shall be no longer than five years from the effective date of this UIC Permit.

The injection activities, the location of the injection site, the type of injection and quantities of additives being used are briefly described as follows:

Injection Activities (summary: including injection well type, number of wells, and injection frequency)

Copy of the Injection Plan Attached (required):

Summary of Injection Plan: Injection of micro-scale activated carbon and biostimulating electron acceptors are planned to treat residual dissolved-phase hydrocarbon contamination at this Petroleum Storage Tank Bureau release site. Chemicals will be mixed at the site in a 55-gallon drum and injected into the groundwater using direct push technology. Steel rods will be driven into the ground using a GeoProbe track-mounted drill rig, and a hydraulic piston pump mounted on the GeoProbe rig will push materials into the subsurface through custom tooling. The amendment material is manufactured by Regenesis, who has participated in remedial action at more than 21,000 sites worldwide, and will consist of PetroFix (micro-scale activated carbon). The Regenesis design summary is attached.

Injection Site Information

Depth to most shallow groundwater (required): 11 ft

Existing concentration of total dissolved solids (TDS) in groundwater (required): 580mg/

L Location (required): 8635 Rio Grande Blvd NW, Albuquerque, NM

County (required): Bernalillo

Latitude: 35.183918°

Longitude: -106.644978°

Map Showing Area of Injection Sites Attached (required):

Additives Being Used (including volumes, manufacturer, and mixing ratios)

Petrofix is manufactured by

Regenesis Area 1: 123 gal total, 4.05

lb/yd3 Area 2: 82 gal, 7.2 lb/yd3

Anticipated Precipitation, Dissolution, Adsorption, and Desorption Products

The amendment contains soluble sulfate and nitrate salts for biostimulation and solid colloidal activated carbon for the adsorption and removal of petroleum hydrocarbons from the groundwater. No significant precipitation or desorption effects from the amendment are expected.

Public Notice Posting Locations

2 inch by 3 inch Newspaper Ad required for Renewal applications.

Newspaper:

3 inch by 4 inch Newspaper Ad required for New, Modification, and Renewal/Modification applications.

Newspaper: Albuquerque Journal

2 feet by 3 feet sign posted for 30 days in a location conspicuous to the public at or near the facility required for New, Modification, and Renewal/Modification applications.

Sign Location: On the property fence line facing Los Manzanis Road

8.5 inch by 11 inch or larger posted off-site location conspicuous to the public (e.g. public library). Required for New, Modification, and Renewal/Modification applications.

Flyer Location: Rudolfo Anaya North Valley Library, 7704-B 2nd St. NW, Albuquerque, New Mexico 87107

This UIC Permit consists of the complete and accurate completion of this UIC Permit form as determined by the GWQB.

Issuance of this UIC Permit does not relieve the Permittee of the responsibility to comply with the WQA, WQCC Regulations, and any other applicable federal, state and/or local laws and regulations, such as zoning requirements and nuisance ordinances.

Signatures

Signature must be that of the person listed as the legally responsible party on this application.

I, the applicant, attest under penalty of law to the truth of the information and supporting documentation contained in this application for an Underground Injection Control General Discharge Permit.

Applicant's Signature

Signature:



Date:

2-23-22

Printed Name:

Margaret Branch

Title:

owner

Applicant Note that Submissions Must Include:

- 1- One electronic copy of the application delivered to the GWQB via email or other format
- 2- Two hardcopies of the application delivered to:
Ground Water Quality Bureau
Harold Runnels Building
1190 Saint Francis Drive
P.O. Box 5469
Santa Fe, NM 87502-5469
- 3- Payment by check or electronic transfer of one application fee of \$100.00

DRAFT

II. FINDINGS

In issuing this UIC Permit, GWQB finds:

1. The Permittee is injecting fluids so that such injections will move directly or indirectly into groundwater within the meaning of Section 20.6.2.3104 NMAC.
2. The Permittee is injecting fluids so that such fluids will move into groundwater of the State of New Mexico which has an existing concentration of 10,000 mg/L or less of TDS within the meaning of Subsection A of 20.6.2.3101 NMAC.
3. The Permittee is using a Class V UIC well as described in 20.6.2.5002(B)(5)(d)(ii) NMAC for in situ groundwater remediation by injecting a fluid that facilitates vadose zone or groundwater remediation.
4. The Permittee is injecting fluids into groundwater in order to achieve the remediation goals identified in the Injection Plan.

III. AUTHORIZATION TO DISCHARGE

The Permittee is authorized to inject chemical additives into groundwater in accordance with this UIC Permit and the Injection Plan under the oversight of Remedial Oversight Section.

[20.6.2.3104 NMAC, Subsection C of 20.6.2.3106 NMAC, Subsection C of 20.6.2.3109 NMAC]

IV. CONDITIONS

The conditions of this UIC Permit shall be complied with by the Permittee and are enforceable by GWQB.

1. The Permittee shall perform remediation activities in accordance with the Injection Plan and shall notify GWQB of any changes prior to making them.

[20.6.2.3107 NMAC]

2. The Permittee shall monitor the injection activities and their effects on groundwater quality as required by the Injection Plan and shall provide GWQB with electronic copies of the required reporting and any pertinent documentation of activities at the site.

[20.6.2.3107.A NMAC, 20.6.2.3109.A NMAC]

3. If the GWQB or the Permittee identifies any failure of the Injection Plan or this UIC Permit to comply with 20.6.2 NMAC not specifically noted herein, GWQB may require the Permittee to submit a corrective action plan and a schedule for completion of corrective actions to address the failure.

Additionally, the GWQB may require the Permittee to submit a proposed modification to the Injection Plan, this UIC Permit, or both.

[20.6.2.3107.A NMAC, 20.6.2.3109.E NMAC]

4. ADDITIONAL MONITORING REQUIREMENTS – (RESERVED)
5. TERMINATION – Within 30 days of completion of activities authorized by this UIC Permit the Permittee shall submit a closure report and a request to terminate the UIC Permit to the GWQB for its approval. The closure report shall identify how the injection well(s) was (were) closed in accordance with the Injection Plan. The Permittee shall provide Remedial Oversight Section with a copy of this closure report.

[20.6.2.5005 NMAC, 19.27.4 NMAC]

6. INSPECTION and ENTRY – The Permittee shall allow a representative of the NMED to inspect the facility and its operations subject to this UIC Permit and the WQCC regulations. The GWQB representative may, upon presentation of proper credentials, enter at reasonable times upon or through any premises in which a water contaminant source is located or in which are located any records required to be maintained by regulations of the federal government or the WQCC.

The Permittee shall allow the GWQB representative to have access to, and reproduce for their use, any copy of the records, and to perform assessments, sampling or monitoring during an inspection for the purpose of evaluating compliance with this UIC Permit and the WQCC regulations.

Nothing in this UIC Permit shall be construed as limiting in any way the inspection and entry authority of GWQB under the WQA, the WQCC Regulations, or any other local, state, or federal regulations.

[20.6.2.3107.D NMAC, NMSA 1978, §§ 74-6-9.B and 74-6-9.E]

7. MODIFICATIONS and/or AMENDMENTS – In the event the Permittee proposes a change to the injection plan that would result in a change in the volume injected; the location of the injections; or the concentration of the additives being injected by the facility, the Permittee shall notify GWQB prior to implementing such changes. The Permittee shall obtain approval (which may require modification of this UIC Permit) by GWQB prior to implementing such changes.

[20.6.2.3107.C NMAC, 20.6.2.3109.E and G NMAC]

8. COMPLIANCE with OTHER LAWS – Nothing in this UIC Permit shall be construed in any way as relieving the Permittee of the obligation to comply with all applicable federal, state, and local laws, regulations, permits, or orders.

[NMSA 1978, § 74-6-5.L]

9. PERMIT FEES – Payment of permit fees is due at the time of UIC Permit approval. Permit fees shall be paid in a single payment remitted to GWQB no later than 30 days after the UIC Permit effective date.

Permit fees are associated with issuance of this UIC Permit. Nothing in this UIC Permit shall be construed as relieving the Permittee of the obligation to pay all permit fees assessed by GWQB. A Permittee that ceases injecting or does not commence injecting during the term of the UIC Permit shall pay all permit fees assessed by GWQB. An approved UIC Permit shall be suspended or terminated if the facility fails to remit a payment by its due date.

[20.6.2.3114.F NMAC, NMSA 1978, § 74-6-5.K]

Work Plan

Work Plan for Injection Program and Groundwater Monitoring Event 8635 Rio Grande Blvd NW Property Albuquerque, New Mexico

1. Introduction

Daniel B. Stephens & Associates, Inc. (DBS&A) has prepared this work plan outlining injection program activities to be performed at the property located at 8635 Rio Grande Blvd NW in Albuquerque, New Mexico (Figure 1). This work plan details the remediation strategy, with the overall objective of assessing the extent of contaminants of concern (COCs) that are impacting the site. A brief discussion of the site background is included, followed by the proposed scope of services and schedule.

2. Background

The site consists of an approximate 2.31-acre parcel occupied by a residence, guest house, and detached garage. The parcel is bounded on the south by Los Manzanis Road NW. Current land use of the surrounding area is mixed vacant and improved residential (Figure 1).

In December 2018, the property was sold with the understanding that the former owner, the Estate of Turner Branch, would remove an underground storage tank (UST) located underneath the garage. In July 2018, a contractor met with the New Mexico Environment Department (NMED) Petroleum Storage Tank Bureau (PSTB) inspector at the site and determined that the UST had a capacity of approximately 550 gallons and was empty. The UST was removed in August 2019, and the NMED PSTB inspector documented several corrosion holes in the tank. Two soil samples were collected for laboratory analysis from beneath the UST under the supervision of the NMED PSTB inspector. The samples were submitted to Hall Environmental Analysis Laboratory (HEAL) in Albuquerque, New Mexico, and analyzed by U.S. Environmental Protection Agency (EPA) method 8015D for gasoline range organics (GRO), EPA method

8015M/D for diesel range organics (DRO), and EPA method 8021B for volatile organic compounds (VOCs). GRO, DRO, and xylenes were detected in the two samples collected from beneath the UST and a release was confirmed.

On February 14, 2020, the NMED Ground Water Quality Board (GWQB) gave Notice of Discharge and requested additional assessment of the release in a letter to Margaret Branch and the Estate of Turner Branch (NMED, 2020).

An initial site investigation was completed in September 2020 with the primary objective of characterizing the site conditions and determining to what extent the release associated with the UST resulted in impacts to soil, groundwater, soil vapor, and indoor air quality at the site (DBS&A, 2020). VOC and polycyclic aromatic hydrocarbon (PAH) analyses were conducted on selected soil and groundwater samples collected at the site. VOC analyses were also conducted on selected sub-slab and indoor air samples collected at the site.

The results of the site investigation indicate that total naphthalenes are present at concentrations above the New Mexico Water Quality Control Commission (NMWQCC) standard in groundwater in the area of a temporary monitor well installed on the west side of the garage, and that the confirmed release has reached the water table and impacted groundwater. Total naphthalenes are not included in the drinking water VOCs analysis by EPA method 524.2, and it was not determined whether naphthalenes are present in the domestic well south of the garage. It is suspected that groundwater may be flowing to the south, parallel to the Rio Grande. The well south of the garage is used for irrigation, and does not supply drinking water to the residence. The well was installed in 1979 to a depth of 138 feet in the shallow aquifer. The screened depth of the well is unknown.

Detected concentrations of all VOCs were below laboratory reporting limits or applicable NMED residential vapor intrusion screening levels (VISLs) for the primary indoor air sample and sub-slab sample collected at the residence.

Due to the presence of actionable dissolved-phase contamination in the groundwater, NMED issued a letter to Margaret Branch and the Estate of Turner Branch on January 12, 2021 (NMED, 2021), requiring that additional site characterization take place at the site in accordance with Subsection 1203 of New Mexico's Ground and Surface Water Protection Regulations (20.6.2 NMAC).

Additional site characterization was completed in April 2021, and included installation of three groundwater monitor wells. A total of three soil samples and three groundwater samples were

collected from three newly installed groundwater monitor wells (MW-1, MW-2, and MW-3) and submitted for laboratory analysis. In addition, two groundwater samples were collected from two on-site domestic irrigation wells.

The results of the site investigation indicate that total naphthalenes are present at concentrations above the NMWQCC standard in groundwater in the area of monitor well MW-2, located on the east side of the garage (Figure 2), and that the confirmed release has impacted groundwater. Although it was suspected that groundwater flow was to the south, parallel to the Rio Grande, the actual groundwater flow is to the east-southeast, away from the Rio Grande. The well located south of the garage is used for irrigation, and does not supply drinking water to the residence.

COCs were not detected at concentrations above NMWQCC standards in the groundwater samples collected from monitor wells MW-1 and MW-3.

It appears that actionable dissolved-phase contamination is limited to an area on the eastern side of the garage in the vicinity of monitor well MW 2. Due to the persistent contamination at concentrations above NMWQCC standards in MW-2, it was recommended that an amendment injection program be implemented to address the localized dissolved-phase contamination at the site (DBS&A, 2021).

3. Scope of Services

The scope of services for this field investigation includes the following:

- Prepare this work plan and cost estimate
- Update the health and safety plan (HASP)
- Coordinate site access
- Obtain subcontractor agreements
- Call for utility locates
- Schedule the project

To ensure a focus on project objectives, an authorized representative of DBS&A will monitor compliance with the approved work plan.

Prior to the performance of fieldwork, the site-specific HASP will be updated to address health and safety issues associated with the proposed project activities, including amendment injection-related safety issues and the coronavirus (COVID-19) pandemic.

DBS&A will contact all affected property owners to coordinate site access. Subcontractor services will be negotiated and agreements will be obtained for amendment injection and laboratory analysis.

Once the project is scheduled, the property owner(s) and the NMED project manager will be notified four days prior to commencement of field activities. After completion of field activities, DBS&A will ensure that locations where project activities occurred are restored as close as possible to their original condition.

3.1 Underground Injection Control Discharge Permit

Prior to purchase of amendment injection materials, DBS&A will obtain a discharge permit from the NMED GWQB. DBS&A will submit a groundwater discharge permit application and provide maps, figures, logs, tables, and other data necessary to ensure that the application is administratively and technically complete. DBS&A will pay the application filing fee, and will pay for the initial public notice required by the NMED GWQB. To complete public notice, DBS&A will post a sign at the residence, post a flyer off-site at a location approved by GWQB, mail a public notice flyer to property owners within 1/3 mile, and post notice in a GWQB-approved newspaper. For similar activities on other sites, DBS&A and our clients have successfully obtained temporary permission to discharge for a one-time amendment injection event after completion of the initial public notice required by the GWQB.

3.2 Amendment Injection Program

Prior to initiation of the field program, a sampling and analysis plan (SAP) will be prepared that addresses all field activities to be conducted by DBS&A and complies with EPA requirements. The SAP will include project-specific data quality objectives (DQOs) to ensure that the collected data and the applied analytical methods are appropriate so that the necessary decision making can be performed.

DBS&A will prepare a HASP in accordance with 29 CFR 1910.120, which will include a discussion of the tasks to be performed, likely hazards to be encountered, mitigation measures, and appropriate personal protective equipment to be used. Information regarding key contacts will also be included.

DBS&A worked with Regenesi[®] and Vista GeoScience (Vista) of Golden, Colorado to develop a site-specific treatment design to achieve the remedial goals with a practical and cost-effective approach. The selected injectate is PetroFix[™], a micron-scale activated carbon (1 to 2 microns) emulsion that removes dissolved-phase hydrocarbon contaminants by adsorption to the carbon media, combined with inorganic electron acceptors (nitrate and sulfate) to facilitate anaerobic biodegradation. PetroFix[™] can be economically applied under low pressure (less than 100 pounds per square inch [psi]), and coats permeable transport zones within the treated aquifer. Once injected, PetroFix[™] carbon particles remain positionally stable within the aquifer and serve to continue capturing and immobilizing dissolved-phase constituents that may be supplied by residual source areas outside the treatment zone.

This carbon-based injectate was selected so that residual hydrocarbon mass will be captured if water levels rise into a potential smear zone above the current water table, and so that the injectate can be applied under relatively low pressure. Some carbon-based injectates that are injected as a slurry can require higher-pressure application, resulting in fracturing of the soil formation. This can result in random and incomplete product distribution.

The site-specific application summary for PetroFix[™] is provided as Attachment 1, and includes the following specifications (depths listed below assume water is present at approximately 11 to 12 feet below ground surface [bgs]):

- The treatment area is surrounding monitor well MW-2, on the south and east side of the garage where the UST was located. A total of 30 injection points on 6-foot spacing over a 10-foot vertical interval (approximately 6 to 16 feet bgs) will be used for the injections. PetroFix[™] will be injected over an approximate 1,100-square foot areal extent. Regenesi estimates a total product quantity of PetroFix[™] of approximately 2,000 pounds, or approximately 65 pounds per injection point.
- Materials will be injected using direct-push technology in accordance with manufacturer instructions (Attachment 1). DBS&A intends to subcontract with Vista Geoscience, who will provide the direct-push and mixing equipment. Based on subsurface soils in the treatment zone, DBS&A anticipates using a bottom-up injection method for application of the amendment. A mechanical mixing pump will be used to mix PetroFix[™] materials with the manufacturer-specified quantities of water in a tank. Water will be obtained locally and stored in a water tank for daily use. A hydraulic piston pump mounted on a track-mounted GeoProbe rig will be used to inject materials into the subsurface through either GeoProbe tooling or the probe rods, depending on subsurface drilling conditions. Injection boreholes

will be backfilled with bentonite and sealed at the surface with a quick-setting, high-early-strength concrete.

- Injection pressure is critical to this application, as it is the key to distributing amendment into the formation. Based on assumed dry and saturated unit weights of 100 and 125 pounds per cubic foot, respectively, and an assumed porosity of 20 percent (for an average sand), recommended maximum sustained injection pressures in the soil formation would be less than 100 psi. Pressure will be monitored between the injection pump and the probe rods to minimize surfacing of injected materials. The proposed piston pump will also keep injection flow rates on the order of 3 to 5 gallons per minute (gpm). During and after injection activities, nearby monitor wells will be periodically monitored for increasing contaminant vapor concentrations using a photoionization detector (PID) or equivalent organic vapor meter. Work areas will be secured from vehicular and pedestrian traffic during injection activities.

3.3 Groundwater Monitoring and Reporting

Following amendment injection pilot test activities, one groundwater monitoring event will be conducted according to the following procedures and protocols.

Depth to groundwater will be gauged in each of the three existing site wells (MW-1, MW-2, and MW-3) (Figure 2) using an electronic interface probe. The measurements will be used to prepare a potentiometric surface map to assess the groundwater flow direction and gradient. The interface probe will be decontaminated using a non-phosphate detergent solution and distilled water rinse prior to collection of each measurement.

Each monitor well will be purged with a bailer prior to sampling to ensure that a representative sample of groundwater is obtained. Field parameters, including dissolved oxygen (DO), oxidation/reduction potential (ORP), temperature, pH, and specific conductance, will be measured during purging with a YSI 556 multiprobe system (MPS) meter or equivalent device, and will be recorded in the field notes. Purging will continue until a minimum of three casing volumes have been produced and field measured parameters have stabilized, or until the well has been purged dry. If the well is purged dry, a sample will be collected as soon as enough water has entered the well to fill sample containers. Wells will be monitored and sampled from the least contaminated wells to the most contaminated wells, based on results of the last monitoring event performed at the site.

Following purging, groundwater samples will be collected for laboratory analysis. To minimize volatilization and ensure sample integrity, bottom-emptying devices will be used to transfer groundwater samples from bailers to the appropriate containers. Samples for volatile organic analysis will be collected in 40-milliliter (mL) glass vials containing a preservative. The samples will be collected such that no headspace is present in the vials. The bottled groundwater samples will be labeled and preserved on ice in an insulated cooler for delivery to HEAL for analysis; chain of custody documentation will accompany the samples at all times. A trip blank will be included with each sampling set. The laboratory report will include results of the trip blank, surrogate, and spike recovery analyses.

Groundwater samples will be analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX), methyl tertiary-butyl ether (MTBE), 1,2-dichloroethane (EDC), 1,2-dibromoethane (EDB), and total naphthalenes in accordance with U.S. Environmental Protection Agency (EPA) method 8260B (full list). To assist with performance monitoring following implementation of the groundwater treatment program, samples will also be collected for analysis of biochemical oxygen demand (BOD) by Standard Method (SM) 5210B, chemical oxygen demand (COD) by EPA method 410 (modified), dissolved iron and manganese by EPA method 6010C, sulfate and nitrate by EPA method 300.0, pH by SM 4500, and total dissolved solids (TDS) by SM 2540C (modified). Most of these additional analyses are assumed to be a condition of the GWQB temporary permission to discharge.

3.4 Reporting

After completion of the amendment injection and receipt of laboratory data from the groundwater monitoring event, a report conforming to 20.5.119 NMAC reporting guidelines will be submitted to the NMED. The report will include, but not be limited to, a description of work performed (including the injection activities), a site plan, a potentiometric surface map, a contaminant distribution map, isoconcentration contour maps (when appropriate), and tables summarizing depth to groundwater measurements, water level elevations, field parameters, and analytical chemistry data. The sampling protocol, laboratory reports (including chain of custody documentation), photographs, and field notes will be provided as appendices.

4. Schedule

DBS&A recognizes that the Estate of Turner Branch is interested in completing this injection program in a timely fashion. Upon approval of this work plan, cost estimate and notice to

proceed (NTP), DBS&A will prepare the injection permit within 20 working days for submittal to the NMED. After the NMED has approved the permit, the field program will be initiated within 30 working days after receipt of NTP. A draft report will be submitted to the NMED within 15 working days of receipt of analytical results. The final report with recommendations will be submitted within 15 working days after receipt of NMED's final comments to the draft report.

References

Daniel B. Stephens & Associates, Inc. (DBS&A). 2020. *Site investigation report, 8635 Rio Grande Boulevard Northwest UST site, Los Ranchos de Albuquerque, New Mexico*. Prepared for the Remediation Oversight Section, New Mexico Environment Department Ground Water Quality Bureau. November 18, 2020.

DBS&A. 2021. *Continued site investigation report, 8635 Rio Grande Boulevard Northwest UST site, Los Ranchos de Albuquerque, New Mexico*. Prepared for the Remediation Oversight Section, New Mexico Environment Department Ground Water Quality Bureau. June 3, 2021.

New Mexico Environment Department (NMED). 2020. Letter from Michelle Hunter to Margaret Branch regarding Notice of discharge – Submittal required, Former UST at 8635 Rio Grande Blvd. NW, Los Ranchos de Albuquerque, New Mexico. February 14, 2020.

NMED. 2021. Letter from Michelle Hunter to Margaret Branch regarding Work plan required, Confirmed release at 8635 Rio Grande Boulevard Northwest, Albuquerque, New Mexico. January 12, 2021.

Figures

S:\Projects\DB20.1151_Rio_Grande_Bldv_Site_Investigation\GIS\MDXs\Investigation Rpt\F01_Area_Map.mxd



Source: Esri et. al.



0 500 1000
Feet

Explanation

 Site boundary

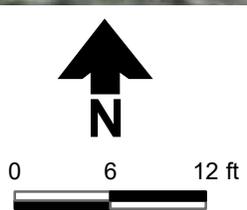
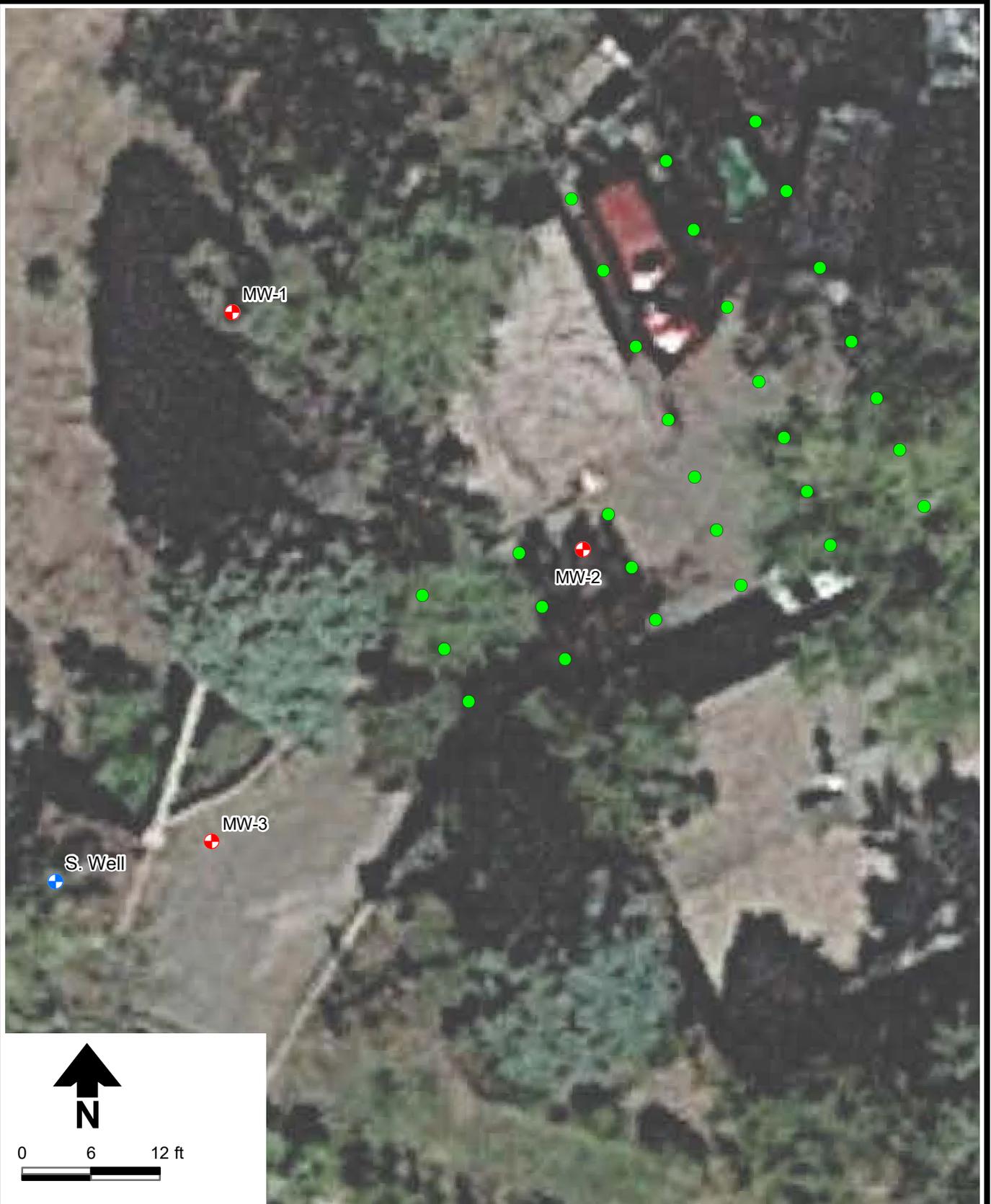
RIO GRANDE BLVD SITE INVESTIGATION
8635 RIO GRANDE BLVD NW
ALBUQUERQUE, NEW MEXICO
Area Map



Daniel B. Stephens & Associates, Inc.
 10/16/2020 JN DB20.1151.00

Figure 1

S:\PROJECTS\DB20.1151_RIO_GRANDE_BLDV_SITE_INVESTIGATION\GIS\MDX\SITE_MAP_INJECTION.PTS.MXD



Explanation

- Proposed injection points
- ⊕ Monitor well
- ⊕ Domestic well

Source: Mid Region Council of Governments (MRCOG) September 2014

RIO GRANDE BLVD SITE INVESTIGATION
8635 RIO GRANDE BLVD NW
LOS RANCHOS DE ALBUQUERQUE, NEW MEXICO

Site Map

Figure 2

Attachment 1
Injection Quote



*Expert Environmental
Support Services for Site
Investigation & Remediation*

September 13, 2021

John Bunch

CLIENT: CTI Engineers and Constructors

1650 Ximeno Ave, Suite 200

Long Beach, CA 90804

FAX: 562-494-5296 · PHONE: 562-494-9465

E-Mail: jbunch@geo-logic.com

RE: Vista Quote #: 21201.01 REV 1; PetroFix Injection Services

Site Address: Property on Rio Grand Blvd, Albuquerque, NM

John:

Attached is the cost estimate for direct-push drilling services at your site in Albuquerque, NM. This estimate includes a Geoprobe Dual-Technology track mounted DPT/Auger combo drilling rig, 40 hour HAZWOPER trained technicians, and all consumables.

In our rental fleet we have PIDs, FIDs, bailers, CO meters, landfill gas meters, pumps, H2S meters, water level meters, survey equipment, GPS, hand sampling equipment, generators, concrete core drills, and many other items. We can also assist with utility locates, traffic control, ROW and cut permits, well development, well sampling, well installation notices/permitting/reporting, and site specific HASP or JSAs. If you do not see an item in this quote, it is not included. Let us know if you need anything additional not already stated in this quote.

Please review this entire document carefully for all item quote and check quantities and number of items stated. If this proposal, terms and conditions are satisfactory, please signify your acceptance by having an authorized person sign below and provide copy to VISTA. If the CLIENT wishes to provide their own subcontract, this entire proposal must be included at a referenced attachment with all assumptions and terms included.

We appreciate the opportunity to provide this proposal for our professional services. Please contact us if you have any questions.

Sincerely,

Peter Wethington

pwethington@vistageoscience.com

THE UNDERSIGNED SIGNATORY REPRESENTS AND WARRANTS THEY HAVE AUTHORITY TO ENTER INTO THIS AGREEMENT.

ACCEPTED BY (SIGN): _____ **DATE:** _____

PRINTED NAME: _____ **TITLE:** _____

Please see Assumptions, Quoted Prices, Standard Terms & Conditions on the following pages.

Page 1

Vista Quote #: 21201.01 REV 1; PetroFix Injection Services**ASSUMPTIONS INCLUDED WITH PROPOSAL:**

In order to assist the client in assuring all steps necessary to successfully and safely complete this project are addressed, please note the following assumptions made when preparing this proposal. If you have any questions or need our assistance in addressing any of the following, please advise us prior to proceeding with the project.

CLIENT will review and approve all drilling & injection locations, as well as mark locations on the pavement or ground surface prior to VISTA potholing, coring, or drilling at a location.

The anticipated work can be completed using Level D Personal Protection Equipment (PPE).

Proposal assumes the work will be completed during normal, daytime working hours.

Proposal assumes any permits not specified in this proposal will be obtained by the client.

Site Lithology is conducive to direct push probing, and we will be able to push to the depths specified. Where solid stem auger is proposed, the proposal assumes that the rigs proposed can achieve the required depths. If an alternative drilling method is required, costs for this have not been included.

The operator will call probe refusal. If the client's onsite representative insists on pushing beyond the operator's recommendation, the client is responsible for any resulting tool damage.

Proposal assumes additional charges may apply due to rig refusal, frozen ground, or unanticipated slower penetration rates due to site conditions.

Additional estimated time for pre-probing or pre-augering hole is NOT included in this proposal, unless otherwise stated.

Boreholes will be abandoned with hydrated bentonite chips and patched with like materials (concrete or asphalt).

VISTA will not be responsible for any damage to pavements or landscaped areas resulting from our crews' operation of the track rig unless from negligence. The client recognizes that some damage may occur due to turning, leveling, and other normal operating procedures including stabilizing the rig to prevent movement during probing.

VISTA will containerize and leave all investigation derived waste (IDW) onsite. Management and disposal of the waste is the responsibility of the CLIENT or OWNER.

CLIENT will provide a site specific health and safety plan, and provide monitoring, as required per CFR 1910.120.

Please see Standard Terms & Conditions on Following Page



Rocky Mountain Region Ph: 303-277-1694
 Gulf Coast Region Ph: 281-310-5560
www.VistaGeoScience.com

Date: September 13, 2021
Vista Rep: Peter Wethington
 pwethington@vistageoscience.com

Vista Quote No.: 21201.01 REV 1

For: John Bunch, CTI Engineers and Constructors

1650 Ximeno Ave, Suite 200 · Long Beach, CA 90804 · Phone: 562-494-9465 · Fax: 562-494-5296

Project Overview for: PetroFix Injection Services

Services: Geoprobe Dual-Technology Track Rig, Clean-Inject Remediation System, and 3 person crew.
 Pre-clearing of boring locations (pothole/hand auger) not included in this quote. Additional charges will apply for these services.
 Using 1.5" drill rod and 3-foot sliding section lead rods, inject 4 locations simultaneously keeping pressures under 100 psi.
 Area 1: Inject 1,200 lbs PetroFix, 60 pounds of Electron Acceptor and 5,861 gallons of water at 22 locations between 6-16 ft bgs.
 Area 2: Inject 800 lbs PetroFix, 40 pounds of Electron Acceptor and 2,163 gallons of water at 8 locations between 6-16 ft bgs.
 Abandon each boring location with bentonite chips and patch to match existing surface.
 Complete a 811 One Call utility locate prior to mobilizing to the site.
 Quote assumes flows of 3.0 gpm can be maintained at each injection location.
 Pressure washer will be used to clean areas with asphalt and concrete upon completion of injections.

Address/Location: Property on Rio Grand Blvd, Albuquerque, NM

Estimated Start Date: TBD

Estimated Duration (days): 5

Site Description/Notes:

Environmental Drilling & Labor Estimate:	QTY	PRICE	TOTAL
Geoprobe DPT/Auger Rig, Clean-Inject Pump Rig, Level D, per day (8 hours)	5	4995.00	\$24,975.00
Geoprobe DPT/Auger Rig, Clean-Inject Pump Rig, Level D, per day, Overtime (>8 hours)		575.00	
Lump Sum Site Setup and Break Down	1	1000.00	\$1,000.00

Subtotal Environmental Sampling Services: \$25,975

Rentals / Other Services:	QTY	PRICE	TOTAL
Injection/Remediation Summary Report	1	800.00	\$800.00
Water Procurement, lump sum	1	1200.00	\$1,200.00

Subtotal Rentals / Other Services: \$2,000

Expendable Items/Materials Estimate:	QTY	PRICE	TOTAL
PetroFix and Electron Acceptor, per pound	2000	4.66	\$9,320.00
Estimated Shipping and Handling for PetroFix and Electron Acceptor, lump sum	1	1900.00	\$1,900.00
Granular or Chip Bentonite, per 50# bag	17	12.00	\$204.00
Concrete patch, per 50# sack	3	8.00	\$24.00
Asphalt Cold-Patch, per 50# bag	3	15.00	\$45.00

Subtotal Expendable Items: \$11,493

Mobilization and Travel Expense Estimate:	QTY	PRICE	TOTAL
Lump Sum Mobilization and Setup	1	8,900.00	\$8,900.00
Per Diem, per person, per day	21	50.00	\$1,050.00
Lodging, per person, per day	21	120.00	\$2,520.00

Subtotal Mobilization Expenses: \$12,470

Total Estimated Project Cost: \$51,938

5% New Mexico Sales/Service Tax 5% \$2,596.90

Total Estimated Project Cost w/ Tax / Project Management: \$54,534.90

Quotation valid for 90 days and subject to Vista GeoScience's Terms & Conditions, as attached.

SCOPE OF WORK

Based on the treatment design proposed in Section 2, the proposed scope of work (SOW) to complete the tasks is as follows:

3.1 Mobilization

Mobilization includes delivery to the job site or moving between job sites, equipment, tools, materials, supplies, PPE, miscellaneous articles, and personnel sufficient to commence and sustain temporary DPT sampling and subsurface logging activities to meet the project schedule.

VISTA proposes to mobilize the following equipment/systems to complete the require tasks:

- Geoprobe 7000 series track mounted DPT/Auger combo rig.
- DT22 or DT32 Continuous Core System for collection of confirmation soil samples.
- Water Sampling Materials:
 - SP-16 Screen Point Water Sampling Tools for Water Sampling
 - Materials for Temporary ¾" PVC Water Sampling Wells
 - Materials for Temporary Water Sampling Tubing Implants
- Clean-Inject Remediation System
 - 1200 psi, 35gpm setup
 - 1200 psi, 70gpm setup
- Chem Grout Injection Trailer
 - Three Stage Moyno Pump, 350 psi, 25 gpm
 - Additional D-35 or DP-800 pump for fracturing if necessary

3.1 Utility Locates, Clearing, Daylighting

VISTA will notify the Utility Notification Center of New Mexico (UNCNM) at least 72-hours prior to our field work to obtain locates for public underground facilities, even if VISTA is a subcontractor on the job.

When locates are obtained through UNCNM, the various underground facility owners are only responsible for marking their lines from the property line to the meter. Any underground utilities that exist beyond or behind the meter are considered "private" utilities and may include irrigation/sprinkler lines or water, sewer, phone and/or electric lines from the metered building to an auxiliary building on a property. Private utilities may be located by ordering private utility locates and/or by exposing the proposed excavation areas by potholing ("daylighting"). VISTA can assist in providing private utility locates or daylighting services. Unless specifically noted below, this proposal does not include private utility locates or daylighting services. VISTA maintains the right to refuse to excavate and/or drill in any location that may be reasonably deemed unsafe to dig. VISTA will not be responsible for any utility repairs.

- Proposal includes 811 Utility Notification
- Proposal includes 811 Utility Notification and private utility locates.
- Proposal includes hand augering drill locations to 5 feet before drilling.
- Proposal includes potholing and/or utility daylighting using a hydro-vac system.

3.2 Investigation Derived Waste (IDW):

Proposal includes daylighting services and assumes debris is impacted by contaminants such that disposal at an appropriate landfill or waste facility will be required. Proposed Disposal Location:

ACI Services. Waste Treatment Facility [waste must be excluded waste as defined under 40 CFR 261.4(b) (10) Petroleum Contaminated Media & Debris from Underground Storage Tanks] CLIENT, as generator, will be required to sign necessary manifests.

Other:

CLIENT, as generator, is responsible for all sampling, analysis, and profiling. Costs for transportation and disposal are extra and not included in this proposal unless otherwise noted.

3.3 Traffic Control

Sufficient work area must be provided for our direct-push rig, injection equipment, generator and other equipment if our crews are to safely and efficiently provide the requested services. Additional charges may apply if we are required to move equipment to accommodate site owner imposed restrictions or to compensate for heavy traffic conditions. We can assist you in providing traffic control. Unless specifically noted below, this proposal does not include traffic control services.

Proposal does not include traffic control.

Proposal includes traffic control.

3.4 Pavement Coring / Street Permits

Removal and patching of any concrete, asphalt, or other surface materials will be necessary if located in the intended work area. VISTA can provide coring and patching services if requested. Unless specifically noted below, this proposal does not include coring or patching services. Please note that even if we provide pavement patching services, we cannot guarantee against future settlement or damage to the patched areas due to conditions beyond our control such as poor surrounding pavement conditions, drainage and heavy traffic. Our proposal does not include street cut permits, degradation fees or any related services unless specifically noted below.

Proposal does not include pavement coring, patching services, or street cut permitting.

Proposal includes pavement coring and patching (subject to the limitations noted above)

Proposal includes street cut permitting, including the following specific tasks and estimated fees:

3.5 Equipment Storage & Frost Protection

If the project is anticipated to take more than one (1) day and is located more than 50 miles from VISTA's office, it may be necessary to store equipment in a secure location overnight. Also, if the project occurs during freezing weather, equipment must be protected from freezing. If the injection equipment cannot be stored inside a heated garage, a 120V/30A power supply must be available to operate space heaters inside the injection equipment. Our proposal anticipates the following.

No equipment storage or frost protection will be required.

Proposal assumes a storage location on site will be available, but no frost protection is necessary due to the anticipated weather conditions.

Proposal assumes client will provide a secure location to store our equipment at night and a power supply of at least 120V/30A.

- VISTA will provide any necessary storage and frost protection and the associated costs are included in our proposal.

3.6 Water Supply

Sufficient clean water is necessary to mix most dry injectates. At many sites, a water spigot or nearby fire-hydrant is available. If necessary, VISTA can transport water to the site. If a water spigot is provided, the spigot must have a flow rate of at least 10 gpm and be located within 100 ft. of the injection equipment. If a fire-hydrant is available, permits and a backflow preventer connected to a hydrant meter must be provided. VISTA can obtain the necessary permits, backflow preventer and hydrant meter if requested. This proposal includes the following services.

- Proposal assumes a water spigot will be provided by the client within 100 ft. of our injection equipment and with a flow rate of at least 10 gpm.
- Proposal assumes a fire hydrant, backflow preventer, hydrant meter and all necessary permits will be provided by the client.
- Proposal assumes a fire hydrant, backflow preventer, hydrant meter and all necessary permits will be obtained by VISTA.
- Proposal assumes VISTA will transport water to the site.

3.7 Reagent Containment, Surfacing & Site Cleanup

Depending on the site conditions, injectate surfacing may occur. This may be the result of specific subsurface soil and groundwater conditions, nearby utility corridors, the pavement condition in the area of the injection, and the amount and flow rates of chemicals injected into the ground. In some circumstances we can lower the injection rates to minimize injectate surfacing but in many cases lowering the injection rates will only make the problem worse. Our proposal is based on the assumption that injection rates of at least 10-20 gpm can be maintained without injectate surfacing. If lower injection rates are required to prevent injectate surfacing, additional charges may apply. VISTA is not responsible for cleanup of injectates that surface at the site or enter nearby monitoring wells, utility corridors, nearby properties buildings or other pathways. Also, depending on the magnitude of the proposed injection, a large number of injectate containers and other waste can be generated during the project. Unless specifically noted below, our proposal assumes no cleanup of injectate or other waste. Containment is recommended for hazardous chemicals, such as strong oxidants. Even though non-hazardous reagents may not require containment for surface spills, if a release occurs, they may still result in a nuisance or illegal discharge, especially if they enter a public right of way or storm drain, and containment may be recommended. Vista will provides costs for this service only if requested.

- Proposal assumes cleanup of any surfaced injectate, empty injectate containers and other waste will be provided by others.
- Proposal assumes VISTA will provide cleanup of surfaced injectate, where accessible
- VISTA will provide a vacuum trailer continuously during the project.
- Proposal assumes VISTA will provide cleanup of injectate in impacted monitoring wells.
- Proposal assumes VISTA will provide disposal of all empty injectate containers and other waste.
- Proposal includes costs for containment for pump systems, liquid storage, and mixing tanks
- Proposal assumes reagents are non-hazardous and containment is not requested

3.8 Deliverables Summary Reports

Following completion of the proposed scope of work, VISTA will prepare a basic summary report of the injection activities (injection locations and depths, injected quantities, breakthrough and pumping pressures, etc.).

3.9 Other Project Assumptions

In order to assist the CLIENT in assuring all steps necessary to successfully and safely complete this project are addressed, please note the following assumptions made when preparing this proposal. If you have any questions or need our assistance in addressing any of the following, please advise VISTA prior to proceeding with the project.

- Client will review and approve all drilling and injection locations, as well as mark locations on the pavement or ground surface prior to VISTA potholing, coring, or drilling at a location.
- The anticipated work can be completed using Level D Personal Protection Equipment (PPE).
- Proposal assumes the work will be completed during normal, daytime working hours.
- Proposal assumes any permits not specified in this proposal will be obtained by the client.
- Site Lithology is conducive to direct push probing, and we will be able to push to the depths specified. The operator will call probe refusal. If the CLIENT's onsite representative insists on pushing beyond the operator's recommendation, the client is responsible for any resulting tool damage.
- Proposal assumes additional charges may apply due to rig refusal, frozen ground, or unanticipated slower penetration rates.
- Additional estimated time for pre-probing or pre-augering hole is included in this proposal.
- Boreholes will be abandoned with hydrated bentonite chips or crumbles and patched with like materials (concrete or asphalt).
- VISTA will not be responsible for any damage to pavements or landscaped areas resulting from our crews' operation of the track rig unless from negligence. The client recognizes that some damage may occur due to turning, leveling, and other normal operating procedures including stabilizing the rig to prevent movement during probing.
- Time and materials costs are included for repair to anticipated damaged pavements or landscaped areas resulting from our crews' operation of the track rig.

Decontamination of Tooling:

- All probe rod will be decontaminated between all boreholes.
- Only probe rod that is retrieved wet will be decontaminated between boreholes.
- Tooling will not be contaminated between boreholes, but will be decontaminated before leaving site.

CLIENT: CTI Engineers and Constructors

RE: Vista Quote #: 21201.01 REV 1; PetroFix Injection Services

STANDARD TERMS AND CONDITIONS FOR FIELD SERVICES AGREEMENTS

Definitions: Vista GeoScience LLC (VISTA), a Colorado Corporation, is the company providing contracted consulting, field and/or laboratory services according to this price quotation and agreement. The named customer in the quotation is referred to as the CLIENT in these here terms and conditions. The owner of the property or site is referred to as the OWNER. Acceptance of this price quotation is considered acceptance of these terms and conditions.

Quotation: Unless otherwise stated in the quote, this a time and materials estimate. Actual quantities used will be invoiced according to the unit price rate in the quote and quantities provided and used. Acceptance of this quotation and notice to proceed includes acceptance of VISTA's Terms and Conditions by the CLIENT. A deposit or mobilization advance payment may be required for some projects depending on credit terms with the CLIENT. Pricing in this quotation is valid for 90 days.

Insurance: VISTA carries a \$5,000,000 liability insurance policy which includes **general, pollution and professional liability** at those limits. Workers compensation insurance and liability insurance certificates can be provided upon request naming the CLIENT or property owner as additionally insured. A certificate of insurance can be provided upon request.

Utilities: VISTA will not drill on a location without a completed and current utility locate. Call the national Utility Notification Center (UNC) at 811 to obtain public utility clearance. Most services requires at least 48 hrs notice prior to the date of drilling, and longer times are generally required to arrange for on-site appointments, which may be required. If the property includes private utilities, on private property may require a private locator. Unless noted in the proposal, VISTA is not responsible for private locates. If provided drilling locations, VISTA will obtain clearance and/or meet with utility locators for a fee. When calling in locates, add VISTA's name to the ticket. Vista is not responsible for damage due to improperly or unlocated utilities or subsurface obstructions. Locates can be called in under VISTA's name with the contact person being the CLIENT's field contact for providing site information or conducting on site locates. Any unanticipated time for VISTA to meet with utility locators on site will be invoiced to CLIENT at standard rates.

Licensing, Test Holes & Monitoring Wells: John Fontana, owner of Vista GeoScience, is an NGWA certified well driller (CWD). Vista is licensed/authorized to drill test holes or install monitor wells in CO, KS, NE, NM, OK, SD, and UT. Vista may also be authorized to drill test holes or install monitor wells in states where licensing is not required for the type of equipment we use or the type of boring being drilled. In any case, Vista will always use best practices as a where other reporting rules apply, including plugging and abandoning test holes in states where licensing may not be required. If VISTA is contracted by the CLIENT to work on sites in other states, the CLIENT must inform VISTA if additional licensing is required.

Daily Reports and Notifications: VISTA will provide the clients on-site representative daily field reports of all activities, time and materials used on the site including notification of any drilling issues, lost tooling or damages occurred during the day. The client will be required to sign the daily report, and can comment on any information provided on the report if so desired, and a copy of the report is provided at the end of the day or shift. Crews also maintain field notes which are available upon request after the project is completed.

Health & Safety: For environmental site services, VISTA employee's will have current OSHA certifications required for Hazardous Waste Operations (HAZWOPER) according to CFR 1910.120 and can provide current certification documents and required medical monitoring documents. VISTA maintains a general health and safety plan (HASP) and standard operating procedures (SOP) for its typical operations. A site specific HASP is required for HAZWOPER operations and is the responsibility of the site owner, or site owners representative, to provide a site specific HASP and monitoring. VISTA can provide a site specific HASP if the client is able to provide VISTA with all required information regarding site specific and operational hazards for an additional charge, if not already included in this price quote and agreement. VISTA's on site staff will hold daily "tailgate" safety meetings at the start of each work day on site in cooperation with the CLIENT's on site staff and will document such meetings.

Right to Stop Work: VISTA employee's and the CLIENT's on site representative have the right to call a STOP WORK order if any party feels that any task or operation is a health or safety risk or that damage to any equipment or property may occur.

USDOT & FMCSA Regulations: VISTA is classified as a USDOT (#1725329) interstate carrier and follows all US Department of Transportation Regulations and the Federal Motor Carriers Association Rules and operates under US DOT number 1725929. All commercial vehicle operators are trained on the commercial driving rules and those driving vehicles over 26,000 lbs GVW have a commercial drivers license. Most VISTA drivers have air-brake and tanker endorsements, but not Hazardous Materials endorsement. Therefore, VISTA is not permitted to transport hazardous cargo over DOT limits. It is understood by both that crews operating on sites mobilized away from our home office may be required to take 24 hour rest periods to continue operation of commercial vehicles on public roads according to FMCSA rules. Per diem and/or standby charges may apply.

Site Conditions, Tool & Equipment Damages: VISTA does not charge for normal wear and tear of tooling or equipment or breakage of work tooling or equipment. However, if site conditions are such that abnormal breakage occurs to tooling or other equipment, charges for such damage will be included in the invoice for replacement of such tooling and equipment. VISTA's on site representative will notify the CLIENT's on site representative if such damage is anticipated based on initial work on the site, or if it occurs on the site, and such damage will be noted with site conditions on the Daily Field Services Report.

Investigation Derived Waste (IDW): Any IDW generated from proposed drilling or remediation activities is the property and responsibility of the OWNER, or OWNER's representative (CLIENT), and will be containerized and left on site for proper characterization and disposal by the CLIENT or OWNER, per State and Federal regulations, unless otherwise stated in this cost proposal. VISTA will not take possession of any IDW.

Invoicing & Payment Terms: Invoices are sent either after project completions, at the end of a task or PO order, or at two week intervals on longer projects. Payment is due in Net 30 days from invoice date unless otherwise stipulated in this quote or an overriding contract or agreement. A mobilization advance payment/deposit may be required for some projects depending on credit terms with the client. Late payments will accrue interest at 2.0% per month finance charges accruing from the original invoice date. Any additional cost incurred on past due invoices will be added to the amount due including but not limited to collection agency fees, attorney fees and court fees. CLIENT will follow all State prompt payment laws regarding payment for work completed.

Petrofix Application
Summary

DRAFT



Injection Grid Application Summary



Rio Grande Blvd. Property Area 1

PetroFix Amount	1,200 lb
Treatment Surface Area	800.0 ft ²
Delivery Points	22
Point Spacing	6.0 ft
Top of Treatment Interval	6.0 ft bgs
Bottom of Treatment Interval	16.0 ft bgs
Vertical Treatment Interval Thickness	10.0 ft
Treatment Volume	296 yd ³
PetroFix Dose	4.05 lb/yd ³

Total Volume	5,984 gal
Product Volume	123 gal
Water Volume	5,861 gal
Injection Volume/Point	272 gal
Inject Volume/Vertical ft	27 gal
Product/Point	5.6 gal
Water/Point	266.4 gal
Soil Type	Mix of coarse and fine
Effective Pore Volume Fill %	50%

Mix Tank Volume*	275.0 gal
Dilution Factor*	48.72
PetroFix per Mix Tank	6 gal
Water per Mix Tank	269 gal
Electron Acceptor per Mix Tank	3 lb
Total Batches Required	21.76

Specific Area Notes
Native Soil Type: Mix of coarse and fine

Reported Ground Water Concentrations (µg/L)

Benzene	1	Naphthalenes	228
Toluene	1	MTBE	1
Ethylbenzene	1	TPH-GRO	10
Xylenes	1	TPH-DRO	1
Trimethylbenzenes	1	Sum of Dissolved Concentrations:	241



Injection Grid Application Summary



Rio Grande Blvd. Property Area 2

PetroFix Amount	800 lb
Treatment Surface Area	300.0 ft ²
Delivery Points	8
Point Spacing	6.0 ft
Top of Treatment Interval	6.0 ft bgs
Bottom of Treatment Interval	16.0 ft bgs
Vertical Treatment Interval Thickness	10.0 ft
Treatment Volume	111 yd ³
PetroFix Dose	7.2 lb/yd ³

Total Volume	2,244 gal
Product Volume	82 gal
Water Volume	2,163 gal
Injection Volume/Point	281 gal
Inject Volume/Vertical ft	28 gal
Product/Point	10.2 gal
Water/Point	270.3 gal
Soil Type	Mix of coarse and fine
Effective Pore Volume Fill %	50%

Mix Tank Volume*	275.0 gal
Dilution Factor*	27.41
PetroFix per Mix Tank	10 gal
Water per Mix Tank	265 gal
Electron Acceptor per Mix Tank	5 lb
Total Batches Required	8.16

Specific Area Notes
Native Soil Type: Mix of coarse and fine

Reported Ground Water Concentrations (µg/L)

Benzene	1	Naphthalenes	228
Toluene	1	MTBE	1
Ethylbenzene	1	TPH-GRO	10
Xylenes	1	TPH-DRO	1
Trimethylbenzenes	1	Sum of Dissolved Concentrations:	241

PetroFix[™] Specification Sheet

PetroFix Technical Description

PetroFix is a new remedial technology designed to treat petroleum fuel spills in soil and groundwater. A simple-to-use fluid that can be applied under low pressure into the subsurface or simply poured into open excavations, PetroFix offers a cost-effective solution for environmental practitioners and responsible parties to address petroleum hydrocarbon contaminants quickly and effectively.

PetroFix has a dual function; quickly removing hydrocarbons from the dissolved phase, by absorbing them onto the activated carbon particles, while added electron acceptors stimulate hydrocarbon biodegradation in-place. PetroFix does not require high pressure “fracking” for application and can be applied with ease using readily available equipment associated with direct push technology.

The remedial fluid is a highly concentrated water-based suspension consisting of micron-scale activated carbon and biostimulating electron acceptors. PetroFix has a viscosity higher than water and is black in appearance. Its environmentally-compatible formulation of micron-scale activated carbon (1-2 microns) is combined with both slow and quick-release inorganic electron acceptors. A blend of additional electron acceptors is included along with the PetroFix fluid. Practitioners can select between a sulfate and nitrate combination blend (recommended), or sulfate only for the additional electron acceptors required.



PetroFix Design Assistant



REGENESIS has developed a proprietary web-based design assistant called PetroFix Design Assistant[™] that provides environmental professionals the ability to input their site parameters, determine the required product amount, and order the product through REGENESIS' customer service. The PetroFix Design Assistant includes defaults and warnings throughout the process to guide users toward effective designs that will offer best results.

To access the PetroFix Design Assistant, create an account and login at www.PetroFix.com

PetroFix Fluid Chemical Composition	Properties
Activated Carbon - CAS 7440-44-0 > 30% Calcium Sulfate Dihydrate - CAS 10101-41-4 < 10%	Appearance: Black Fluid Viscosity: 1500-3500 cP (corn syrup-like) pH: 8-10

PetroFix Electron Acceptor Powder Chemical Composition	Properties
OPTION 1 - EA Blend (preferred) Sodium Nitrate - CAS 7631-99-4, 50% Ammonium Sulfate - CAS 7783-20-2, 50% OPTION 2 - EA Blend NF Potassium Sulfate - CAS 7778-80-5, 50% Ammonium Sulfate - CAS 7783-20-2, 50%	Appearance: White Powder

DRAFT

Storage and Handling Guidelines	
Storage: <ul style="list-style-type: none"> • Store away from incompatible materials • Store in original closed container • Store at temperatures between 40°F and 95°F • Do not allow material to freeze or store in direct sunlight. • Freezing and hot weather technical memo can be accessed at www.petrofix.com/resources or at this link here. • Dispose of waste and residues in accordance with local authority requirements 	Handling: <ul style="list-style-type: none"> • Never add additives to solution prior to mixing with water • Wear appropriate personal protective equipment • Do not taste or ingest • Observe good industrial hygiene practices • Wash hands after handling

Applications

PetroFix is mixed with water on-site and easily applied onto the sub-surface using low pressure injections, or mixed in excavations. PetroFix is compatible with and can be used with ORC Advanced® to expedite rates of biodegradation. For more information about co-application with ORC Advanced, contact REGENESIS.



Remedial Design Assumptions and Qualifications

Cost Estimate Disclaimer: The cost listed assumes conditions set forth within the proposed scope of work and assumptions and qualifications. Changes to either could impact the final cost of the project. This may include final shipping arrangements, sales tax or application related tasks such as product storage and handling, access to water, etc. If items listed need to be modified, please contact Regenesis for further evaluation.

Shipping Estimates: Shipping estimates are valid for 30 days. All shipping charges are estimates and actual freight charges are calculated at the time of invoice. Additional freight charges may be assessed for any accessorial requested at the time of delivery. The estimate included within assumes standard shipping.

Standard delivery is between 8am -5pm Monday –Friday. *accessorial – can include, but not limited to lift gate and pallet jack at delivery, inside delivery, time definite deliveries, and delivery appointments.

Please communicate any requirements for delivery with the customer service department at the time the order is placed.

Return Policy: To initiate a return please contact your local sales manager for an RMA. A 15% re-stocking fee will be charged for all returned goods. Return freight must be prepaid. All requests to return product must be in original condition and no product will be accepted for return after 90 days from date of delivery.

Professional Judgement: In generating this estimate, REGENESIS relied upon professional judgment and site specific information provided by others. Using this information as input, we performed calculations based upon known chemical and geologic relationships to generate an estimate of the mass of product and subsurface placement required to affect remediation of the site.

REGENESIS developed this Scope of Work in reliance upon the data and professional judgments provided by those whom completed the earlier environmental site assessment(s), and in reliance upon REGENESIS' prior experience on similar project sites. The fees and charges associated with the Scope of Work were generated through REGENESIS' proprietary formulas and thus may not conform to billing guidelines, constraints or other limits on fees. REGENESIS does not seek reimbursement directly from any government agency or any governmental reimbursement fund (the "Government"). In any circumstance where REGENESIS may serve as a supplier or subcontractor to an entity which seeks reimbursement from the Government for all or part of the services performed or products provided by REGENESIS, it is the sole responsibility of the entity seeking reimbursement to ensure the Scope of Work and associated charges are in compliance with and acceptable to the Government prior to submission. When serving as a supplier or subcontractor to an entity which seeks reimbursement from Government, REGENESIS does not knowingly present or cause to be presented any claim for payment to the government.

Terms and Conditions Products and Services

1. PAYMENT TERMS. Net 30 Days. Accounts outstanding after 30 days will be assessed 1.5% monthly interest. Volume discount pricing will be rescinded on all accounts outstanding over 90 days. An early payment discount of 1.5% Net 10 is available for cash or check payments only. We accept Master Card, Visa and American Express.

2. RETURN POLICY. A 15% re-stocking fee will be charged for all returned goods. All requests to return product must be pre-approved by seller. Returned product must be in original condition and no product will be accepted for return after a period of 90 days.

3 FORCE MAJEURE. Seller shall not be liable for delays in delivery or services or failure to manufacture or deliver due to causes beyond its reasonable control, including but not limited to acts of God, acts of buyer, acts of military or civil authorities, fires, strikes, flood, epidemic, war, riot, delays in transportation or car shortages, or inability to obtain necessary labor, materials, components or services through seller's usual and regular sources at usual and regular prices. In any such event Seller may, without notice to buyer, at any time and from time to time, postpone the delivery or service dates under this contract or make partial delivery or performance or cancel all or any portion of this and any other contract with buyer without further liability to buyer. Cancellation of any part of this order shall not affect Seller's right to payment for any product delivered or service performed hereunder.

4. LIMITED WARRANTY. Seller warrants the product(s) sold and services provided as specified on face of invoice, solely to buyer. Seller makes no other warranty of any kind respecting the product and services, and expressly **DISCLAIMS ALL OTHER WARRANTIES OF WHATEVER KIND RESPECTING THE PRODUCT AND SERVICES, INCLUDING ALL WARRANTIES OF MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE AND NON-INFRINGEMENT.**

5. DISCLAIMER. Where warranties to a person other than buyer may not be disclaimed under law, seller extends to such a person the same warranty seller makes to buyer as set forth herein, subject to all disclaimers, exclusions and limitations of warranties, all limitations of liability and all other provisions set forth in the Terms and Conditions herein. Buyer agrees to transmit a copy of the Terms and Conditions set forth herein to any and all persons to whom buyer sells, or otherwise furnishes the products and/or services provided buyer by seller and buyer agrees to indemnify seller for any liability, loss, costs and attorneys' fees which seller may incur by reason, in whole or in part, of failure by buyer to transmit the Terms and Conditions as provided herein.

6. LIMITATION OF SELLER'S LIABILITY AND LIMITATION OF BUYER'S REMEDY. Seller's liability on any claim of any kind, including negligence, for any loss or damage arising out of, connected with, or resulting from the manufacture, sale, delivery, resale, repair or use of any goods or performance of any services covered by or furnished hereunder, shall in no case exceed the lesser of (1) the cost of repairing or replacing goods and repeating the services failing to conform to the forgoing warranty or the price of the goods and/or services or part thereof which gives rise to the claim. **IN NO EVENT SHALL SELLER BE LIABLE FOR SPECIAL INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING LOST PROFITS, OR FOR DAMAGES IN THE NATURE OF PENALTIES.**

7. INDEMNIFICATION. Buyer agrees to defend and indemnify seller of and from any and all claims or liabilities asserted against seller in connection with the manufacture, sale, delivery, resale or repair or use of any goods, and performance of any services, covered by or furnished hereunder arising in whole or in part out of or by reason of the failure of buyer, its agents, servants, employees or customers to follow instructions, warnings or recommendations furnished by seller in connection with such goods and services, by reason of the failure of buyer, its agents, servants, employees or customers to comply with all federal, state and local laws applicable to such goods and services, or the use thereof, including the Occupational Safety and Health Act of 1970, or by reason of the negligence or misconduct of buyer, its agents, servants, employees or customers.

8. EXPENSES OF ENFORCEMENT. In the event seller undertakes any action to collect amounts due from buyer, or otherwise enforce its rights hereunder, Buyer agrees to pay and reimburse Seller for all such expenses, including, without limitation, all attorneys and collection fees.

9. TAXES. Liability for all taxes and import or export duties, imposed by any city, state, federal or other governmental authority, shall be assumed and paid by buyer. Buyer further agrees to defend and indemnify seller against any and all liabilities for such taxes or duties and legal fees or costs incurred by seller in connection therewith.

10. ASSISTANCE AND ADVICE. Upon request, seller in its discretion will furnish as an accommodation to buyer such technical advice or assistance as is available in reference to the goods and services. Seller assumes no obligation or liability for the advice or assistance given or results obtained, all such advice or assistance being given and accepted at buyer's risk.

11. SITE SAFETY. Buyer shall provide a safe working environment at the site of services and shall comply with all applicable provisions of federal, state, provincial and municipal safety laws, building codes, and safety regulations to prevent accidents or injuries to persons on, about or adjacent to the site.

12. INDEPENDENT CONTRACTOR. Seller and Buyer are independent contractors and nothing shall be construed to place them in the relationship of partners, principal and agent, employer/employee or joint ventures. Neither party will have the power or right to bind or obligate the other party except as may be expressly agreed and delegated by other party, nor will it hold itself out as having such authority.

13. REIMBURSEMENT. Seller shall provide the products and services in reliance upon the data and professional judgments provided by or on behalf of buyer. The fees and charges associated with the products and services thus may not conform to billing guidelines, constraints or other limits on fees. Seller does not seek reimbursement directly from any government agency or any governmental reimbursement fund (the "Government"). In any circumstance where seller may serve as a supplier or subcontractor to an entity which seeks reimbursement from the Government for all or part of the services performed or products provided by seller, it is the sole responsibility of the buyer or other entity seeking reimbursement to ensure the products and services and associated charges are in compliance with and acceptable to the Government prior to submission. When serving as a supplier or subcontractor to an entity which seeks reimbursement from the Government, seller does not knowingly present or cause to be presented any claim for payment to the Government.

14. APPLICABLE LAW/JURISDICTION AND VENUE. The rights and duties of the parties shall be governed by, construed, and enforced in accordance with the laws of the State of California (excluding its conflict of laws rules which would refer to and apply the substantive laws of another jurisdiction). Any suit or proceeding hereunder shall be brought exclusively in state or federal courts located in Orange County, California. Each party consents to the personal jurisdiction of said state and federal courts and waives any objection that such courts are an inconvenient forum.

15. ENTIRE AGREEMENT. This agreement constitutes the entire contract between buyer and seller relating to the goods or services identified herein. No modifications hereof shall be binding upon the seller unless in writing and signed by seller's duly authorized representative, and no modification shall be effected by seller's acknowledgment or acceptance of buyer's purchase order forms containing different provisions. Trade usage shall neither be applicable nor relevant to this agreement, nor be used in any manner whatsoever to explain, qualify or supplement any of the provisions hereof. No waiver by either party of default shall be deemed a waiver of any subsequent default.

Property Access
Agreement

DRAFT

CONSENT FOR ACCESS TO PROPERTY

Name of Property Owner: Bronson Duran

Location of Property: 8635 Rio Grande Blvd NW, Albuquerque, NM

This is my consent to Daniel B. Stephens & Associates, Inc. (DBS&A) and its authorized officers, employees, contractors, and representatives for access to the above-described Property for corrective action. Activities may include but are not limited to the following:

- Groundwater sampling of existing monitor wells.
- Injection remediation activities.
- All work will be conducted in an efficient, courteous manner and with minimal disruption and inconvenience to the patrons, employees, agents, and representative of the Owner.

DBS&A will provide the Property Owner written or oral notice prior to each entrance onto Property. This notice shall be given to:

Property Owner: Bronson Duran
Owner's Address: P.O. Box 94327, ABO, NM 87199
Telephone: (505)-264-0925
Email: bronsonduran@aol.com

It may be possible for the Property Owner to observe activities on the Property; however, all operations shall be conducted in accordance with the Occupational Health and Safety Regulations (see 29 CFR § 1910.120) and should any potential fire, explosion, health, safety or other hazards of the hazardous waste operation be identified, the Property Owner will not be allowed to observe. Should the property owner choose to have split samples collected and analyzed, then the Property Owner is responsible to arrange in advance for the provision of, and costs associated with any equipment, accessories and laboratory costs required for such split samples.

Installations on the Property will be placed to minimize interference with the movement of vehicles and regular activities on the Property. Following completion of the project, DBS&A or its authorized officers, employees, contractors, and representatives will properly abandon all wells, remove equipment, all materials, trash, fencing, and other associated items. The Department and its authorized officers, employees, contractors, and representatives will otherwise return the property as close as possible to the pre-entrance condition.

This permission is given by me voluntarily with knowledge of my right to refuse and without coercion. I have had an opportunity to ask questions and all my questions have been answered to my satisfaction.



Signature-Property Owner

1-12-2022

Date

DRAFT

Injection Field Form

